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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/780,540	02/12/2001	Yoshihisa Hirayama	01028	8391

7590

02/22/2002

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EXAMINER

NGUYEN, THONG Q

ART UNIT PAPER NUMBER

2872

DATE MAILED: 02/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/780,540

Applicant(s)

HIRAYAMA ET AL.

Examiner

Thong Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2001 and 13 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Request for Continued Examination

1. The request for Continued Examination (RCE) filed on 02/13/2002 under 37 CFR 1.114 based on the U.S. Application No. 09/780,540 is acceptable and a RCE has been established. An action on the RCE follows.

Response to Amendment

2. The present Office action is made in response to the Amendment (Paper No. 8) filed on 12/17/2001 and the communication filed on 02/13/2002.

It is noted that as a result of enter the mentioned amendment, the present application now contains only one claim, i.e., claim 1.

Specification

3. The lengthy specification which was amended has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Redmond et al (U.S. Patent No. 5,664,862, of record).

Redmond et al disclose an edge light for panel display. At columns 2-3 and 5 and in figures 1 and 7, the device comprises a light source system (14) for

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providing light, a light guide (13) having a front surface (19) facing the light source system, a light discharge surface (17) facing the display panel (12); a reflecting surface (18) disposed opposite the light discharge surface (17) facing a reflector (26) which is disposed opposite the display panel; a rear surface (20) located opposite the front surface (19) wherein the rear surface (20) faces a reflector (28). The discharge surface (17) and the reflecting surface (18) are disposed in a parallel manner. See column 2. A diffusing ~~and reflection~~ plate (27) is disposed between the display panel (12) and the discharge surface (17) of the light guide (13) for diffusing ~~and reflecting~~ light discharged from the light guide to the display panel (12).

The light reflecting surface (18) comprises a plurality of grooves each has a front side (23) and a rear side (24). Since the angle formed by the front side (23) and the light reflecting surface (18) is in the range of $(1^\circ, 15^\circ)$ and the angle formed by the rear side (24) and the light reflecting surface (18) is in the range of $(35^\circ, 55^\circ)$; therefore, the angle formed by the front side (23) and a line perpendicular to the light discharge surface (17) is in the range of $(75^\circ, 89^\circ)$ and the angle formed by the rear side (24) and a line perpendicular to the light discharge surface (17) is in the range of $(35^\circ, 55^\circ)$. The light rays from the light source (14) passing through the front surface (19) of the light guide (13) will have a part of light rays being reflected by the front side (23) of each groove towards the display panel (12) and other light rays which are not reflected by the front side (23) of the groove will be guided by the light guide (13) to the rear end (24)

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and then those light rays are reflected by the reflector (28). The light rays reflected by the reflector (28) are then reflected by the rear side (24) of each groove towards the display panel (12). See column 3. As such, the display panel is illuminated by both light rays reflected by the front side (23) and the rear side (24) of each groove formed on the reflecting surface (18). With regard to the feature that the grooves are continuously formed on the reflecting surface, such a feature is also disclosed by Redmond et al as can be seen in the embodiment described at column 5 and shown in figure 7 which disclosed that there is not any space between two adjacent grooves.

With regard to the number of the light source and its position with respect to the light guide, at column 3 (lines 62-66), Redmond et al teach that the light source can be light emitting diodes, and at column 5 and in figure 9, Redmond et al teach that the number of light source be used in the system can be a single light source (14) which is disposed at the central position of the front side surface (23) of the light guide (13).

Response to Arguments

6. Applicant's arguments filed on 12/17/2001 (Paper No. 8, pages 4-5) have been fully considered but they are not persuasive.

Applicant has argued that the all light rays used to illuminate the display panel (12) are the light rays reflected from the reflector (28) which then reflected from the facet (24) of the grooves formed on the reflecting surface (18) of the light guide (13). The Examiner respectfully disagrees with the applicant's conclusion,

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and respectfully invited the applicant to review the art of Redmond et al, in particular, at columns 4-5 and figs. 5 and 6 in which Redmond et al disclose that the light rays used to illuminate the display panel (12) are the light rays reflected from the first facet (60) and from the second facet (61) of each groove (60).

With regard to applicant's arguments that Redmond et al do not teach the use of a single LED, the Examiner respectfully disagrees with the applicant's conclusion and respectfully invited the applicant to review the art of Redmond et al at columns 3 and 5 in which Redmond et al teach that the number of light source be used in the system can be a single light source (14) which is disposed at the central position of the front side surface (23) of the light guide (13), and the light source can be a light emitting diode.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q Nguyen whose telephone number is 703 308 4814. The examiner can normally be reached on M-F.

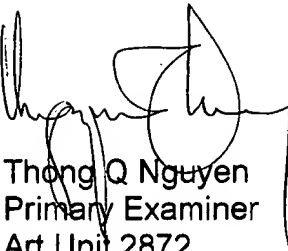
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703 308 1687. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308 7724 for regular communications and 703 308 7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

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Thong Q. Nguyen
Primary Examiner
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February 21, 2002